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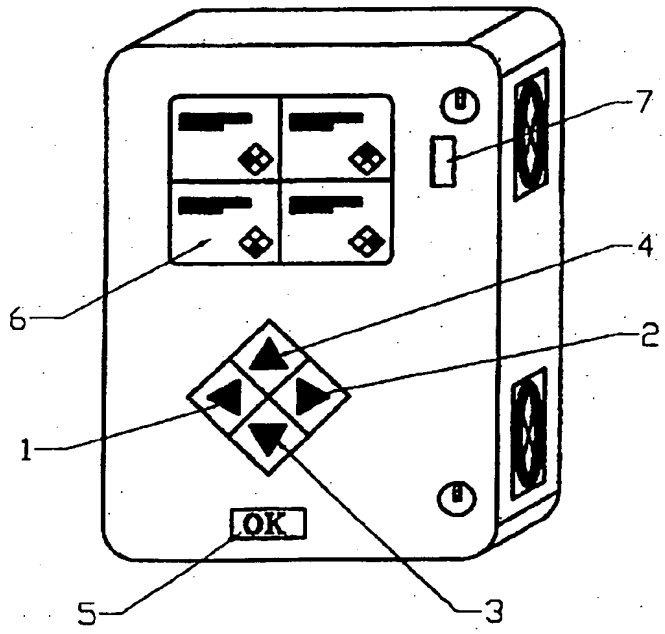

(57) Abstract: The MP 3 jukebox can be realised as an autonomous apparatus in the wall-mountable, desk or self-supportable version, but it can also be combined with a dart-apparatus, computer based cash register, video or computer games.Its operatin is based on the utilisation of one single standard PC or notebook as a controlling, monitoring and memory unit. A combination of especially developed and astandard software packages, makes starting, usage and servicing of the apparatus, easy to a maximum extent. Complete communication between the apparatus and user is carried out ba means of keys (iiii) (1-4) and a separate OK key (5) on the front board of the apparatus. Data concerning the type of music, the performers and the titles of te songs are sorted according to the hierarchical principle "type of music-performer-title of song". The data shown on the screen have visual appearance similar to two pages of a book, so that moving from one screen to another feels like paging an pen book, in order to enable easier and quicker, both the orientation and the selection among a large amount of data. Al variants of the apparatus can be adjusted for completely autonomous usage by blind or sight-impaired persons, which is accomplished by recording the performer's name and the song title during the preparation of music , and by announcing the name of each selected performer and the song title at moving through the menu.

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MP3 JUKEBOX

1. FIELD OF THE INVENTION

The invention relates to the apparatus for ***public reproduction of the music***. In relation to the conventional apparatuses of the kind, the apparatus according to the invention is improved by the following:

- the newest standardised components and/or hardware assemblies are used, that are generally widely used in the field of electronics and computer technology;
- MP 3 format is used for digital data compression;
- the software coder and decoder are used for the digital data compression to the MP 3 format;
- developed application-specific software that integrates the operation of all mentioned components is used.

The apparatus is meant to be used by psychically and physically unimpaired persons, but it can easily be redesigned to be used by blind and sight-impaired persons.

2. TECHNICAL PROBLEM (BACKGROUND OF THE INVENTION)

The invention solves the technical problem of how to apply the latest accomplishments of modern technology:

a) using the latest standardised and widely available components and/or hardware assemblies, that are generally widely used in the field of electronics and computer techniques,
b) with the support of specially developed interface,
c) by combination of the standard software and the software developed by the inventors themselves,

in producing a musical apparatus with wide applicability, of high quality and reliability, and with the minimal cost of manufacturing.

Besides the above-mentioned, the invention also solves the problem of suitable redesign of the standard realisations in order that blind or sight impaired persons can use it.

3. STATE OF THE ART

Descriptions of digital jukeboxes are known, but they are based on concepts different from the one described here and for which the patent protection is sought.

4. DESCRIPTION OF THE INVENTION

The jukebox according to the present invention is an apparatus that reproduces (or plays back) music via an installed audio-amplifier and internal and/or external speakers. It is meant for selecting and listening to music by one or several persons that are situated in a closed or an open public space.

The jukebox according to the invention is also able to reproduce music from external sources, such as radio-receivers, tape recorders etc., with a possibility of selection between external sources and the music stored in the jukebox itself. In case an external source has been selected, it can be listened free of charge or by starting a charging device. The authorised person can select between the two by entering the service mode of the apparatus pressing the service key inside the apparatus.

The jukebox according to the invention is realised:

- as an autonomous apparatus in the wall-mountable, desk or self-supportable version,
- as an apparatus combined with a dart-apparatus, in the wall-mountable or self-supportable version,
- as an apparatus combined with a video game, in the wall-mountable or self-supportable version,
- as an apparatus combined with other computer games, in the wall-mountable or self-supportable version,
- as an apparatus combined with a computer-based cash-register,
- as an apparatus, after it has been adequately modified, for blind or sight-impaired persons,
- as an apparatus combined with other public address systems.

4.1. HARDWARE

Principle of the MP 3 jukebox operation is based on the utilisation of one single standard PC or a notebook as a controlling, monitoring and memory unit. Besides standard assemblies that are

included in each PC or notebook (supply unit, motherboard, RAM, HDD, sound-blaster, network card, CD-ROM, floppy disk), a special "interface-card" is required, which is developed by the authors of the invention on the basis of one or several microprocessors. The card is used as an interface between all external (input) signals and the PC or notebook, and it is plugged directly onto the motherboard of the PC or it is connected to one of serial ports of the notebook. The interface processes the external (input) signals coming from the keys and from the charging device, and transfers output signals to the PC. Every time the jukebox is switched on, the PC or notebook programs the interface to be able to perform its function in the entire system.

A floppy disk unit is required due to the fact that all minor modifications of software are issued on a diskette. This enables simple and inexpensive input of the supplements and changes of the software. Major changes to the software are issued on a CD. It is provided that all software changes can be carried out also by an unskilled person, which is due to "user-friendliness" of the program support. It enables that the supplements and/or changes of the software issued on the diskette or CD are performed by simply putting the diskette or CD into the corresponding drive, after which the complete procedure of the supplement and/or change of the software is performed completely automatically. All an authorised person needs to do is to turn the apparatus off at the end and take out the diskette or CD.

In the jukebox casing of a wall-mountable version (Fig.1), desk or self-supporting version or a version combined with a dart-apparatus (Fig.2) a standard PC or an industrial computer, with a CRT or LCD TFT monitor (6) or a "touch screen" attachment to the monitor (6), is placed. Instead of this combination, it is possible to install a complete notebook with a LCD TFT monitor (6). This combination is more compact and easily serviceable because, in case of possible fault, only a few connectors should be disconnected and the complete notebook is sent to be repaired. This can also be carried out by a less skilled person, which adds to cost saving for the fieldwork.

Complete communication between the apparatus and user is performed via the keys ◄, ►, ▲, ▼ (1-4), forming, at the front board of the apparatus, an ergonomically appropriate quadrangle, with horizontally and vertically placed points and with a separate OK-key (5). The keys ▲/▼ (up/down) are meant for moving over a single page (screen) of the menu, and the keys ◄, ►, (back/forward) are meant for changing the complete page, as when turning over pages of a book. The OK-key (5) is meant for confirming any selected option and for starting the process of carrying out the selected option, which is the reason why it is spatially separated from other

keys (1-4), eliminating, in this way, the possibility that the selected option might be activated unintentionally or too early.

4.1.1. PREPARATION OF MUSIC

Music from any standard medium is converted to the MP 3 format using a special software. Special codes indicating the performer are added, as well as the title of the melody and the type of music (other data can also be added if required), or similar data already present on the medium are used.

4.1.2. MUSIC STORAGE

Music processed on an external PC or notebook and also stored thereon, is used for "filling" i.e. storing to the memory of jukeboxes, either during manufacturing or at exploitation of the devices themselves, and this is done in the following two ways:

1. Directly from the PC or notebook by connecting them to the corresponding ports (USB, PCMCIA) on the jukebox itself or in parallel to the fixed HDD in the apparatus. The music can be transferred according to the list of preselected individual titles of records, or as a whole.
2. A CD recorder is connected to the external PC or notebook. CDs are recorded, each containing approximately 180 titles, which depends on the capacity of current CDs that equals to 640-700 MB. In the future it will depend on the development of the technology of CDs (e.g. DVD system).

MP 3 type CDs, prepared in this manner, are used as a low-cost and efficient means for changing and/or supplementing content of the jukebox. This enables easy servicing of the apparatus in the field, due to the software support that is developed in the teamwork of the authors of the invention. Inside the apparatus itself there is a service key which can be reached only by the authorised person. By pressing the key, the service mode is initiated, and the following information appears on the screen:

1. AUDIO-CD RECORDING
2. MP3-CD RECORDING
3. NETWORK OPERATION
4. RECORD DELETING

5. CREDIT COUNTER

6. APPARATUS STATISTICS

Mode of operation is selected by pressing the keys (3 and 4), Fig. 1 or 2, and it is confirmed by pressing OK key (5):

1. AUDIO-CD RECORDING

A standard audio-CD is inserted into the CD-drive of the apparatus, after which the list of "tracks" recorded on the CD is displayed on the screen. One can select all "tracks" (titles) to be recorded by key (1) and (3), and they will be recorded automatically when the selection is confirmed by pressing OK key (5). Another possibility is the recording of single "tracks" (titles) marked by keys (1) and (3). When OK key (5) is then pressed, all the "tracks" (titles) which have not been selected, are recorded. It is also possible to make the opposite selection i.e. to record all the "tracks" (titles) which have been selected.

After the recording is finished, the name of the performer, title and type of music is entered using the keyboard. The "audio-CD recording" mode is left by pressing key (1), Fig. 1 or 2. The software developed by the authors of the invention now automatically sorts the newly recorded music in the alphabetical order of performers and type of music or according to other entered data.

Type of music can be classified into a number of classes. The classification can be such as:

- dance, disco, funky, house, techno,
- hip-hop, rap, rave,
- pop, rock,
- hard, heavy, new age, new wave, punk,
- afro, greece, italo, latino,
- reggae, ska,
- blues, gospel, jazz, R&B, soul,
- country, folk,
- soundtrack.

All cited types can exist as domestic or foreign music.

The initial classification of music on the screen can be made in a number of ways, e.g.: domestic, foreign, top list of the site, new entrance.

2. RECORDING OF PREPARED MP3-CD

A CD with previously prepared music in the MP 3 format is inserted into the CD drive, and after confirmation by OK key (5) all the titles appear on the screen. One can select either a recording of all titles, which is performed automatically when OK key (5) is pressed, or a recording of individual titles selected by putting a mark in the square field positioned to the left of the title. Unmarked titles are automatically recorded after OK key (5) is pressed. It is also possible to adjust the opposite selection i.e. to record all the "tracks" (titles) which have been selected, but it is logical to assume that, in almost all cases, there are more titles on a new MP3-CD which should be recorded, so the marking process is shortened.

In both cases, before the recording is carried out, the user is asked to confirm his selection by pressing OK key (5) one more time. This enables that musical recordings in the jukebox are changed or supplemented in a quick and simple manner, which cuts the costs.

3. NETWORK OPERATION

When this option is selected the jukeboxes establish mutual communication without any external central computer system, and the authorised person is able to transfer or delete musical recordings and all other digital records (e.g. video visiting-card of the site, photograph of the performer, video clips...) among the apparatuses. It suffices to connect plain keyboard to the installed PC or to use notebook keyboard if the notebook is installed. The apparatuses can be connected to the public communication network or to an internal communication network (for instance, if there are several of them in different rooms of a large entertainment centre). The credit counter status or apparatus statistics can also be inspected. In this way it is possible to assess if there is need to visit one of the sites, so unnecessary travelling to the sites can be avoided.

4. RECORD DELETING

Selection of this option enables free space for new songs recording. The same screen appears as at normal jukebox usage, and a block of music is selected to be deleted. The titles that are to be deleted are marked, after which the apparatus requires a confirmation to delete the marked titles. When the confirmation is given by pressing OK key (5), all marked titles are deleted. By pressing key 1, Fig. 1, 2 and 3, the titles that remain after deletion are sorted in the alphabetical order of performers and types of music. Then the apparatus starts playback.

5. COUNTER

The counters installed into the jukebox according to the invention, could be of hardware, software or combined type. They show realised turnover i.e. financial parameters of apparatus usage.

6. STATISTICS

It shows how many songs of each type are played-back in certain period, making it easier to assess the taste and wishes of customers and to select the recordings which are to be deleted due to the fact that they are rarely selected and played-back. Based on statistical data a top-list is formed and the consequtive repetition of one song is prevented.

All statistical data stored in the memory of the apparatus can be reached only by authorised persons. This data can be shown on the screen, printed or sent to any other networked MP 3 jukebox of the same producer.

4.1.3. MANAGING THE APPARATUS

By pressing the service key one more time the jukebox starts "random mode" of operation, in which, even if the charging device is not activated, the music is played-back with reduced loudness, choosing titles i.e. melodies by a random choice algorithm. A special control assembly sets the difference between the level of loudness in "random mode" (unpaid silent music) and selected paid music.

Now the customer has a possibility to select the desired type of music (6) by keys (1-4), to select desired melodies by repeated selection of keys (1-4), and to play-back the chosen melody after the charging device has been activated. The charging device (7) can be activated before or after the selection of music, which makes managing the apparatus much easier. It is by that possible to pay one melody at nominal rate, and more selected melodies at preferential rate, e.g. 1 song 2 KN (0,25 USD, 0,5 DEM), 3 songs 5 KN. Additional information concerning the price of a song can be presented on the screen, as well as pictures of the performer, banners, video visiting cards of the site, clips and alike. These possibilities are controlled by the developed software, and can be changed at jukebox purchase on demand. The charging devices are standard industrial devices produced by several producers world-wide, and can be activated by coins of all denominations at random sequence (the developed software is taking care of the

coin recognition), by tokens, bank-notes or cards (magnet cards or cards with a chip). The type of charging device is chosen according to wishes of the purchaser of the jukebox.

Signals from charging devices are processed in a special "interface card" that is a result of the inventors' development, and the main advantage is in the fact that the card is either plugged-in directly into the motherboard of the PC, or it is connected to one of the serial ports of a note book, so the wiring is connected to the "interface card" directly. This adds to the reliability of the operation. A melody is selected by pressing one of the keys 1-4, after which the full screen for the chosen type of music is opened.

Data concerning the type of music, performers and titles of songs are sorted according to the hierarchical principle: "type of music→performer→title of song".

All the data shown on the screen, can have visual appearance of two book pages, so that going from one screen to another feels like paging an open book. This layout of data presentation enables much easier and quicker both finding the way through a large amount of data, and making a choice.

Another possible variant of data presentation layout on the screen is that the data have a visual appearance as if they have been sorted into lines on a page arbitrary long and they can be inspected line by line or screen by screen upwards or downwards.

Now a customer selects performer and/or the melody itself on the chosen screen and activates it by pressing OK key. In order to prevent the possibility of tormenting other guests with repeated selection of the same melody, the inventors' program supports the restriction of repeated selections of the same melody in the following way. It is possible to set an optional number n ($n = 1, 2...$) of other different melodies, which have to be played-back before it is possible to select the same melody again.

4.2. SOFTWARE

The recording system of the MP3 jukebox uses, as it was already mentioned, the MP3 format of the sound record compression. This format requires a high processor capacity. It is based on an extremely high compression in relation to the original, and at the same time, it keeps high quality in relation to the original sound record. The MP3 jukebox has the ability to convert an original CD or any other media for sound record storage directly into the MP3 format. Already existing program routines (so called MP3 coders) are used for this purpose and they are implemented into the developed software. In such a manner the procedure is completely

automated and it requires, from the user, no more than inserting a CD into the drive, starting the coding program, and finally, entering the name of the performer and the title of the song. After this has been done, the system automatically positions the songs coded in this manner, into certain folders that are defined by the name of the performer or by the type of music. Decoding of the MP3 format is done at the moment of playback. The program routine starts with the decoding and sound playback practically immediately after the selection, and the signal decoded in this manner is sent to the sound-blaster that converts the decoded digital record to the analogue one.

The system for the co-ordination and control of external components utilises a specially developed part of hardware. More precisely, ISA or PCI card with an input-output controller (processor) that connects external components (keys, token devices, sound control and alike) with routines contained in the software itself. After the system has been started, the controller is initialised by the software by setting the processor into various modes (e.g. reading data from input components modes like keys, or, output component modes like token device control). After such a controller receives a signal from an external component at certain moment, it informs the software that data has been received and that it is ready to "deliver" it to the program. In the same way, if there is a need in the program for a control signal towards one of the external components, the program sends data that is to be transferred to the certain component.

Complete software incorporates several units:

1. Performing part, where chosen song is firstly selected simply by moving arrows by means of keys (1-4), and then played-back after the confirmation key (5) is pressed.
2. In the lower part of the screen following parameters are shown:
   a) currently has been played-back ... (the song title),
   b) the number of selected songs to be played-back "x",
   c) the number of paid songs (paid credits) "y".
3. An indicator of a bar-code type at the bottom of the screen visually shows and monitors the play-back time of a song; in this phase of the apparatus operation, the controller is engaged to its maximum, due to the fact that it is checked whether any of the keys has been pressed, whether the charging device has been activated (somebody inserts coins) and whether there are any paid songs on the play-list to be played-back. The complete progress of the song play-back is monitored. If there are not any paid songs to be played-back, the system automatically transfers to the "random mode" i.e. selects a song according to the random

choice criterion, sending the command to the controller that sound loudness should be reduced to the level previously set by a special control assembly.

4. The system for deletion is of the same appearance as at playback, with a difference that by the simple selection via the keys (1-5) a song or a performer is deleted. In the status part of the screen, free space on the disk is shown in minutes.
5. The system for automatic recording of the prepared MP3 CDs is automated to the extent that, after the CD is inserted into the drive, it will automatically record all songs stored on the CD. In case any of the songs are already present on the disc, it will be automatically overwritten by the new version at the CD reading – this is favourable in case when there is an error in the song, which is automatically corrected by deleting the old version and recording the new, correct one. Naturally, it is also possible that individual selected songs are recorded one by one.
6. The system of statistics monitors all songs performed in a certain period of time and, if required, makes top-lists of the most performed songs, which are available on the screen. There is also a possibility of automatic deletion of the songs that have not been performed in a certain period. This possibility can be adjusted with regard to the time span and minimum number of performances.

A part of the developed software has a special task, which is memorising paid credits and selected songs in case of a break in the electric power supply. This, practically, eliminates possible misunderstandings between the owner of the apparatus and customers.

5. DESCRIPTION OF THE DRAWINGS

Figure 1 presents wall-mountable version of the jukebox.

Figure 2 presents the jukebox combined with a self-supportable dart-apparatus.

6. JUKEBOX FOR BLIND AND SIGHT-IMPAIRED PERSONS

In this version all functions of the keys 1-4 and OK key (5) are accompanied by spoken information. The spoken information enables a blind or sight-impaired person to manage the apparatus completely independently.

After a blind or sight-impaired person has selected the desired screen using keys 1-4, he or she can move from one title or performer to another using key 3 (down) or key 4 (up). This is accompanied by spoken information of the name of the performer and the title of the song. This is accomplished by recording the name of the performer and the title of the song during the preparation of music. In this manner the jukebox can be made multi-lingual. Described audio-visual combination of the performer and the title of the song can be applied in all described variants of the jukebox according to the invention.

7. VARIANTS OF THE APPARATUS EMBODIMENT

Different variants of the jukebox according to the invention are possible. In some of them it can be combined with:

a) A dart-apparatus in the wall-mountable or self-supportable version. In this case the installed PC or notebook controls the complete operation of both apparatuses. Depending on the computer and software performances, it is possible to make a version that enables simultaneous usage of both apparatuses. In that case the jukebox plays-back music, while players play darts without any disturbance.

b) A video game in the wall-mountable or self-supportable version. In this case, too, one computer controls the operation of both apparatuses, and it is possible to make a version which enables the simultaneous usage of both. In that case the jukebox plays-back music, while player(s) play(s) the game without any disturbance.

c) Other computer games in the wall-mountable or self-supportable version. In this case, too, one computer controls the operation of both apparatuses, and it is possible to make a version which enables the simultaneous usage of both. In that case the jukebox plays-back music, while player(s) play(s) the computer games without any disturbance.

d) The computer-based cash register. In this case, too, one computer controls the operation of both apparatuses, and it is possible to make a version which enables the simultaneous usage of both. In that case the jukebox plays-back music, while buyers take pleasure in shopping and employees have pleasant musical background during their work.

The combinations of the jukebox and afore-mentioned apparatuses are possible also when a jukebox or notebook with less capability is utilised if the software is adequately modified. In this case, the simultaneous utilisation of both apparatuses is not possible, but the jukebox is activated during the pause in operation of another apparatus.

It will be obvious to specialists in the field that it is possible to make numerous modifications of the described apparatus without abandoning the spirit and scope of the present invention.

CLAIMS

1. The MP3 jukebox, **characterised by**, that operation of the entire apparatus is based on the single installed standard PC, notebook or industrial computer.

2. The MP3 jukebox according to claim 1, **characterised by**, that the interface is:
   a) based on one or several microprocessors, and its operation is based on the software by which it is initialised via the PC or notebook at each switching on,
   b) connection between all external (input) signals from the keys and charging device, and the PC or notebook,
   c) a card which is plugged-in directly into the PC motherboard or is connected to one of the serial ports of the notebook.

3. The MP3 jukebox according to claims 1 and 2, **characterised by**, that:
   a) it is capable to convert records from an original CD or any other media for storing sound records directly to the MP3 format, for which, already existing and into developed software implemented, program routines (so called MP3 coders) are utilised,
   b) the procedure is completely automated and it requires from the user no more than to insert the CD into the drive, to start the program for conversion, and finally, to enter the name of the performer and the title of the song, after which the system itself places the coded songs automatically into the folders defined by the name of the performer or by the type of music.

4. The MP3 jukebox according to claims 1-3, **characterised by**, that the music processed and stored in the MP 3 format on an external PC or notebook is used for "filing" i.e. storing into the memory of the jukebox, during manufacturing or exploitation of the apparatus, in such a manner that by simple connection to the right ports on the jukebox itself, or in parallel to the fixed HDD of the apparatus, music can be transferred according to the selected list of individual titles or all at once.

5. The MP3 jukebox according to claims 1-4, **characterised by**, that the music processed and stored in the MP 3 format on an external PC or notebook is used for "filling" i.e. storing into the memory of the jukebox, during manufacturing or exploitation of the apparatus, in such a manner that a CD-recorder is connected to the external PC or notebook and a CD is recorded, the content of which, after the CD is inserted into the jukebox, is transferred directly to the jukebox memory.

6. The MP3 jukeboxes according to claims 1-5, connected to the public communication network or to an internal communication network, **characterised by**, that when the "network operation" option is selected, the apparatuses establish mutual communication without any external central computer system, and thus the authorised person is able to transfer or delete the music and all other digital records on any of the networked apparatuses.

7. The MP3 jukebox according to claims 1-6, **characterised by**, that complete communication between the apparatus and user is carried out by means of:
   a) keys ◄,►,▲,▼ (1-4) that form an ergonomically appropriate quadrangle with the horizontally and vertically placed points,
   b) OK key (5) separated from the keys (1-4) on the front board of the apparatus.

8. The MP3 jukebox according to claim 7, **characterised by**, that the keys ▲/▼ (up/down) are used for moving across the single page (screen) of the menu, and the keys ◄/► (back/forward) are used for paging complete pages, similar as paging a book.

9. The MP3 jukebox according to claim 7, **characterised by**, that the OK key (5) is used for the confirmation of any chosen option and for starting its execution, which is the reason why it is spaced from other keys (1-4), thus practically eliminating the possibility that a chosen option is activated by mistake, or too early.

10. The MP3 jukebox according to claims 1-9, **characterised by**, that data concerning the type of music, the performers and the titles of the songs are sorted according to the hierarchical principle: type of music→performer→title of song.

11. The MP3 jukebox according to claims 1-9, **characterised by**, that data concerning the type of music, the performers and the titles of the songs are sorted according to the hierarchical principle: performer→title of song.

12. The MP3 jukebox according to claims 10 and 11, **characterised by**, that the data shown on the screen have the visual appearance similar to two pages of a book, so that moving from one screen to another, feels like paging an open book, in order to enable orientation within a large amount of data, as well as to make the selection, easier and quicker.

13. The MP3 jukebox according to claims 10 and 11, **characterised by**, that the data shown on the screen have the visual appearance as if they have been sorted on an arbitrary long page and can be inspected line by line or screen by screen upwards or downwards.

14. The MP3 jukebox according to claims 10-13, **characterised by**, that the musical content can be listed out on the screen, in the context of the chosen type of music, according to the following criteria:
    a) in alphabetical order of the performer's name,
    b) in alphabetical order of the melody title,
    c) in alphabetical order of the newly entered songs or performers,
    d) according to a top-list of songs and/or performers based on the number of playbacks in a certain period of time.
15. The MP3 jukebox according to claims 1-14, **characterised by**, that in the lower part of the screen the following parameters are shown:
    a) currently has been played-back ... (the song title),
    b) the number of selected songs to be played-back "x",
    c) the number of paid songs (paid credits) "y",
    d) indication of free disc space expressed in minutes (appears in the service mode only).
16. The MP3 jukebox according to claims 1-15, **characterised by**, that an indicator of a bar-code type at the bottom of the screen visually shows and monitors the playback time of a song.
17. The MP3 jukebox according to claims 1-16, **characterised by**, that the software supports the restriction of repeated selection of the same melody, in a manner that it is possible to set optional number n ($n = 1, 2...$) of other different melodies which have to be played-back before it is possible to select the same melody again.
18. The MP3 jukebox according to claims 1-17, **characterised by**, that the software enables automatic deletion of the songs that have not been performed in a certain period; this possibility can be adjusted with regard to the time span and the minimum number of performances.
19. The MP3 jukebox according to claims 1-18, **characterised by**, that the software developed by the inventors enables also operation in the "random mode" i.e. according to an algorithm for the random title (melody) selection in which songs are played with reduced loudness; when the charging device is activated the jukebox automatically leaves this mode and switches to playing the selected melody with increased loudness.

20. The MP3 jukebox according to claim 19, **characterised by**, that a special control assembly sets the difference between the level of loudness in the "random mode" (unpaid silent music) and selected paid music.

21. The MP3 jukebox according to afore-mentioned claims, **characterised by**, that the software enables paying one melody at the nominal rate, and more selected melodies at a preferential rate, which can be changed according to customer's (or user's) demand.

22. The MP3 jukebox according to afore-mentioned claims, **characterised by**, that all variants of the apparatus can be adjusted for completely autonomous the usage by blind or sight-impaired persons, which is accomplished by:

a) recording the performer's name and the song title during the preparation of music,

b) speaking the name of each selected performer and the song title at moving through the menu.

23. The MP3 jukebox according to afore-mentioned claims, **characterised by**, that it can be combined with a dart-apparatus in the wall-mountable or self-supportable version, whereby the installed PC or notebook controls the complete operation of both apparatuses; depending on computer and software performances, the simultaneous usage of both apparatuses is possible or the jukebox is activated during the pause in operation of the dart-apparatus.

24. The MP3 jukebox according to afore-mentioned claims, **characterised by**, that it can be combined with video games in the wall-mountable or self-supportable version, whereby the installed PC or notebook controls the complete operation of both apparatuses; depending on computer and software performances, the simultaneous usage of both apparatuses is possible or the jukebox is activated during the pause in the operation of video games.

25. The MP3 jukebox according to afore-mentioned claims, **characterised by**, that it can be combined with other computer games in the wall-mountable or self-supportable version, whereby the installed PC or notebook controls the complete operation of both apparatuses; depending on computer and software performances, the simultaneous usage of both apparatuses is possible or the jukebox is activated during the pause in the operation of the computer game.

26. The MP3 jukebox according to aforementioned claims, **characterised by**, that it can be combined with the computer-based cash register, whereby the installed PC or notebook controls the complete operation of both apparatuses; depending on computer and software performances, the simultaneous usage of both apparatuses is possible or the jukebox is activated during the pause in the operation of the cash register.

27. The MP3 jukebox according to aforementioned claims, **characterised by**, that a part of the developed software has a special task, which is memorising paid credits and selected songs in case of a break in electric power supply, thus ensuring that possible misunderstandings between the owner of the apparatus and the customer are practically eliminated.

28. The MP3 jukebox according to aforementioned claims, **characterised by**, that it can reproduce music from external sources, e.g. radio-receivers, tape recorders..., with the possibility of the selection between the external sources and the music stored in the jukebox itself; in case that the external source is selected, it can be listened free of charge or by starting a charging device; this is selected by the authorised person by entering the service mode of the apparatus pressing the service key inside the apparatus.

29. The MP3 jukebox according to afore-mentioned claims, **characterised by**, that all software changes can be carried out also by an unskilled person, which is due to "user-friendliness" of the program support that enables that the supplements and/or changes of the software are done by simply putting a diskette or CD into the corresponding drive, after which, the complete procedure of the supplementing and/or changing of the software is performed completely automatically.

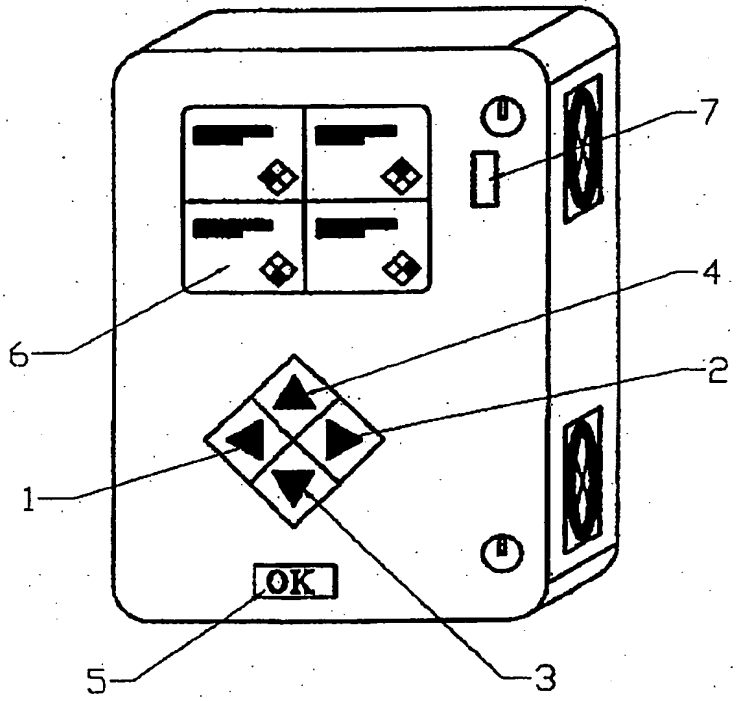

Fig.1.

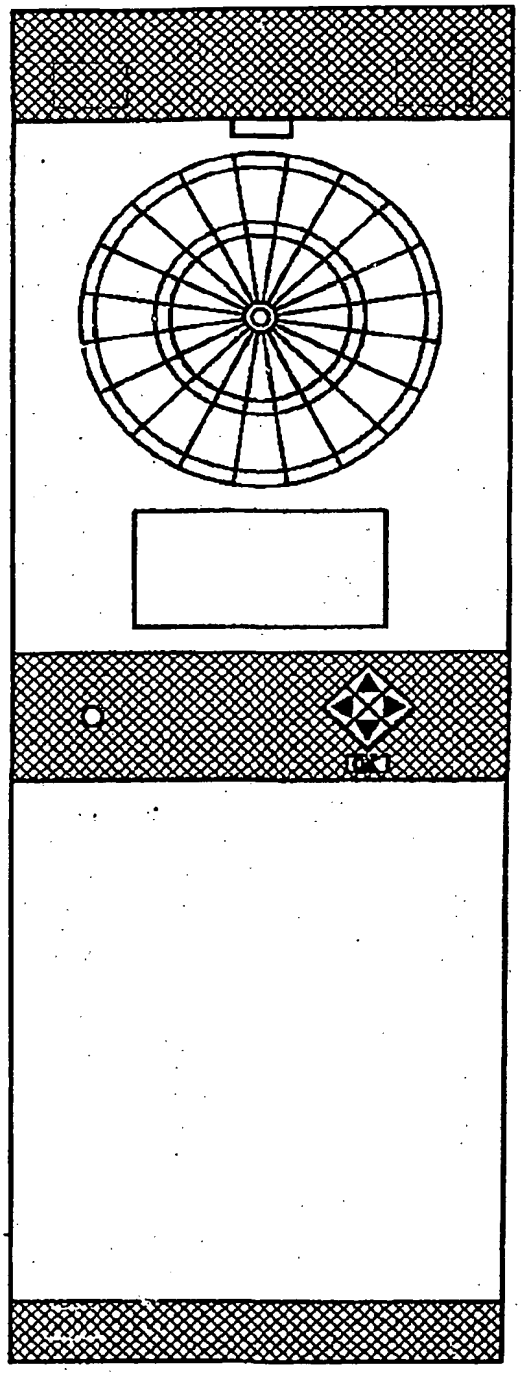

Fig.2.

INTERNATIONAL SEARCH REPORT

Inter l Application No
PCT/HR 01/00018

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G07F17/30 G07F17/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G07F G09B G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 198 44 433 A (NSM AG) 30 March 2000 (2000-03-30) the whole document	1-11
Y		12-18, 22-26

X	WO 99 64969 A (KONINKL PHILIPS ELECTRONICS NV ;PHILIPS SVENSKA AB (SE)) 16 December 1999 (1999-12-16) page 4, line 4 -page 8, line 2 page 8, line 33 -page 9, line 18 page 11, line 15 -page 13, line 16 claims 1-21; figures 1-3,6A-7B	1-6,28, 29
Y		12-18

A	US 4 258 838 A (DISTASO LEONARD A ET AL) 31 March 1981 (1981-03-31) column 2, line 29 -column 4, line 50	19,20

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
6 September 2001	13/09/2001

Name and mailing address of the ISA	Authorized officer
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Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Intern al Application No
PCT/HR 01/00018

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 2 254 469 A (BARCREST LTD) 7 October 1992 (1992-10-07) the whole document	23-26
Y	"INTEGRATED AUDIO-GRAPHICS USER INTERFACE" IBM TECHNICAL DISCLOSURE BULLETIN, IBM CORP. NEW YORK, US, vol. 33, no. 11, 1 April 1991 (1991-04-01), pages 368-371, XP000110434 ISSN: 0018-8689 the whole document	22
A	WO 00 54187 A (ROCK COM INC) 14 September 2000 (2000-09-14) page 1, line 25 -page 9, line 9	1-29

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern al Application No
PCT/HR 01/00018

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WO 9964969 A	16-12-1999	EP 1034501 A	13-09-2000
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